Chih-Man KAM

#8

1653

RAW SEQUENCE LISTING   DATE: 01/28/2002
PATENT APPLICATION: US/09/693,205   TIME: 15:03:20

Input Set : A:\2825.1021-003.TXT
Output Set: N:\CRF3\01282002\I693205.raw

```
 4 <110> APPLICANT: Hudson, Thomas J.
 5        Engert, James C.
 6        Richter, Andrea
 8 <120> TITLE OF INVENTION: IDENTIFICATION OF ARSACS MUTATIONS AND
 9        METHODS OF USE THEREFOR
12 <130> FILE REFERENCE: 2825.1021-003
14 <140> CURRENT APPLICATION NUMBER: US 09/693,205
15 <141> CURRENT FILING DATE: 2000-10-20
17 <150> PRIOR APPLICATION NUMBER: US 60/160,588
18 <151> PRIOR FILING DATE: 1999-10-20
20 <160> NUMBER OF SEQ ID NOS: 73
22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 12793
26 <212> TYPE: DNA
27 <213> ORGANISM: Homo sapiens
29 <400> SEQUENCE: 1
30 atgatttaca ggaagaccat gtactcagct gcagcttcta aatccagaac gatttgcacg 60
31 tcttatcaag gaagtaatga atacattctg gcctggcaga gaattgattg ttcaatggta 120
32 tccatttgat gaaaacagaa atcacccatc tgtttcatgg cttaagatgg tttggaaaaa 180
33 tctttatata catttttcag aggatttgac tttatttgat gagatgccac ttatccccag 240
34 aactatacta gaggaaggtc agacatgtgt ggaactcatt agactcagga ttccatcgtt 300
35 agtcatttta gacgatgaat ctgaagcaca gcttccagaa tttttagcag acattgtaca 360
36 aaaacttgga gggtttgtcc ttaaaaaatt agatgcatct atacaacatc cgcttattaa 420
37 aaaatatatt cattcaccat taccaagtgc tgttttgcag ataatggaga agatgccatt 480
38 gcagaaattg tgtaatcaaa taacttcgct acttccaaca cacaaagatg ccctgaggaa 540
39 gttcttggct agtttaaccg atagcagtga gaaagagaaa agaattattc aagaattggc 600
40 aatattcaag cgcattaacc attcttctga tcagggaatt tcctcttata caaaattgaa 660
41 aggttgtaaa gtcttacacc atactgccaa actcccagca gatctgcgac tttctatttc 720
42 agtaatagac agtagtgatg aagctactat tcgtctggca aacatgttga aaatagaaca 780
43 gttaaagacc actagctgct aaagcttgt tttaaaagat attgaaaatg catttattc 840
44 acatgaagag gtaacacagc ttatgttatg ggtccttgag aatctatctt ctcttaaaaa 900
45 tgagaatcca aatgtgcttg agtggttaac accattaaaa ttcatccaga tatcacagga 960
46 acagatggta tcagctggtg aactctttga ccctgatata gaagtactaa aggatctctt 1020
47 ttgtaatgaa gaaggaacct atttcccacc ctcagttttt acctcaccag atattcttca 1080
48 ctccttaaga cagattggtt taaaaaacga agccagtctc aaagaaaagg atgttgtgca 1140
49 agtggcaaaa aaaattgaag ccttacaggt cggtgcttgt cctgatcaag atgttcttct 1200
50 gaagaaagcc aaaacccctct tactggtttt aaataagaat cacacactgt tgcaatcatc 1260
51 tgaaggaaag atgacattga agaaaataaa atgggttcca gcctgcaagg aaaggcctcc 1320
52 aaattatcca ggctctttgg tctggaaagg agatctctgt aatctctgtg caccaccaga 1380
53 tatgtgtgat gtaggccatg caattctcat tggctcctca cttcctcttg ttgaaagtat 1440
54 ccatgtaaac ctggaaaaag cattagggat cttcacaaaa cctagcctta gtgctgtctt 1500
55 aaaacacttt aaaattgttg ttgattggta ttcttcaaaa acctttagtg atgaagacta 1560
```

RAW SEQUENCE LISTING   DATE: 01/28/2002
PATENT APPLICATION: US/09/693,205   TIME: 15:03:20

Input Set : A:\2825.1021-003.TXT
Output Set: N:\CRF3\01282002\I693205.raw

```
 56 ctatcaattc cagcatattt tgcttgagat ttacggattc atgcatgatc atctaaatga 1620
 57 agggaaagat tcttttagag ccttaaaatt tccatgggtt tggactggca aaaagttttg 1680
 58 tccacttgcc caggctgtga ttaaaccaat ccatgatctt gaccttcagc cttatttgca 1740
 59 taatgtacct aaaaccatgg caaaattcca ccaactattt aaggtctgtg gttcaataga 1800
 60 ggagttgaca tcagatcata tttccatggt tattcagaag atatatctca aaagtgacca 1860
 61 agatctcagt gaacaagaaa gcaaacaaaa tcttcatctt atgttgaata ttatcagatg 1920
 62 gctgtatagc aatcagattc cagcaagccc caacacacca gttcctatac atcatagcaa 1980
 63 aaatccttct aaacttatca tgaagccaat tcacgaatgc tgttattgtg acattaaagt 2040
 64 tgatgacctt aatgacttac ttgaagattc tgtggaacca atcattttgg tgcatgagga 2100
 65 catacccatg aaaactgcag aatggctaaa agttccatgc cttagtacaa gactgataaa 2160
 66 tcctgaaaac atgggatttg agcagtcagg acaaagagag ccacttactg taagaattaa 2220
 67 aaatattctg gaagaatacc cttcagtgtc agatattttt aaagaactac ttcaaaacgc 2280
 68 tgatgatgca aatgcaacag aatgcagttt cttgattgat atgagaagaa atatggacat 2340
 69 aagagagaat ctcctagacc cagggatggc agcttgtcat ggacctgctt tgtggtcatt 2400
 70 caacaattct caattctcag attcagattt tgtgaacata actaggttag gagaatcttt 2460
 71 aaaaagggga gaagttgaca aagttggaaa atttggtctt ggatttaatt ctgtgtacca 2520
 72 tatcactgac attcccatca ttatgagtcg ggaattcatg ataatgttcg atccaaacat 2580
 73 aaatcatatc agtaaacaca ttaaagacaa atccaatcct gggatcaaaa ttaattggag 2640
 74 taaacaacag aaaagactta gaaaatttcc taatcagttc aaaccattta tagatgtatt 2700
 75 tggctgtcag ttacctttga ctgtagaagc accttacagc tataatggaa ccctttttccg 2760
 76 actgtccttt agaactcaac aggaagcaaa agtgagtgaa gttagtagta cgtgctacaa 2820
 77 tacagcagat atttattctc ttgtggatga atttagtctc tgtggacaca ggcttatcat 2880
 78 tttcactcag agtgtaaagt caatgtattt gaagtacttg aaaattgagg aaaccaaccc 2940
 79 cagtttagca caagatacag taataattaa aaaaaaatcc tgctcttcca aagcattgaa 3000
 80 cacacctgtc ttaagtgttt taaaagaggc tgctaagctc atgaagactt gcagcagcag 3060
 81 taataaaaag cttcccagtg atgaaccaaa gtcatcttgc attcttcaga tcacagtgga 3120
 82 agaatttcac catgtgttca gaaggattgc tgatttacag tcgccacttt ttagaggtcc 3180
 83 agatgatgac ccagctgctc tctttgaaat ggctaagtct ggccaatcaa aaaagccatc 3240
 84 agatgagttg tcacagaaaa cagtagagtg taccacgtgg cttctgtgta cttgcatgga 3300
 85 cacaggagag gctctgaagt tttccctgag tgagagtgga agaagactag gactggttcc 3360
 86 atgtggggca gtaggagttc agctgtcaga aatccaggac cagaagtgga cagtgaaacc 3420
 87 acacattgga gaggtgtttt gctatttacc tttacgaata aaaacaggct tgccagttca 3480
 88 tatcaatggg tgctttgctg ttacatcaaa taggaaagaa atctggaaaa cagatacaaa 3540·
 89 aggacgatgg aataccacgt tcatgagaca tgttattgtg aaagcttact tacaggtact 3600
 90 gagtgtctta cgggacctgg ccactagtgg ggagctaatg gattatactt actatgcagt 3660
 91 atggcccgat cctgatttag ttcatgatga tttttctgta atttgccaag gattttatga 3720
 92 agatatagct catggaaaag ggaaagaact gaccaaagtc ttctctgatg gatctacttg 3780
 93 ggtttccatg aagaacgtaa gatttctaga tgactctata cttaaaagaa gagatgttgg 3840
 94 ttcagcagcc ttcaagatat ttttgaaata cctcaagaag actgggtcca aaaacctttg 3900
 95 tgctgttgaa cttccttctt cggtaaaatt aggatttgaa gaagctggct gcaaacagat 3960
 96 actacttgaa aacacatttt cagagaaaca gtttttttct gaagtgtttt ttccaaatat 4020
 97 tcaagaaatt gaagcagaac ttagagatcc tttaatgatc tttgttctaa atgaaaaagt 4080
 98 tgatgagttc tcgggagttc ttcgtgttac tccatgtatt ccttgttcct tggaggggca 4140
 99 tcctttggtt ttgccatcaa gattgatcca ccccgaagga cgagttgcaa agttatttga 4200
100 tattaaagat gggagattcc cttatggttc tactcaggat tatctcaatc ctattatttt 4260
101 gattaaacta gttcagttag gtatggcaaa agatgatat ttatgggatg atatgctaga 4320
102 acgtgcagtg tcagtagctg aaattaataa aagtgatcat gttgctgcat gcctaagaag 4380
103 tagtatctta ttgagtctta tcgatgagaa actaaaaata agggatccta gagcaaagga 4440
104 ttttgctgca aaatatcaaa caatccgctt ccttccattt ctgacaaaac cagcaggttt 4500
```

```
105 ttctttggac tggaaaggca acagttttaa gcctgaaacc atgtttgcag caactgacct 4560
106 ttatacagct gaacatcaag atatagtttg tcttttgcaa ccaattctaa atgaaaattc 4620
107 ccattctttt agaggttgtg gttcagtgtc attggctgtt aaagagtttt tgggattact 4680
108 caagaagcca acagttgatc tggttataaa ccaattgaaa gaagtagcaa aatcagttga 4740
109 tgatggaatt acactgtacc aggagaatat caccaatgct tgctacaaat accttcatga 4800
110 agccttgatg caaaatgaaa tcactaagat gtcaattatt gataagttaa aacccttttag 4860
111 cttcattcta gttgagaatg catatgttga ctcagaaaag gtttcttttc atttaaattt 4920
112 tgaggcggca ccataccttt atcagttgcc taataagtat aaaaataatt tccgcgaact 4980
113 ttttgaaacc gtgggtgtga ggcagtcatg cactgttgaa gattttgctc ttgtttttgga 5040
114 atctattgat caagaaagag gaacaaagca aataacagaa gagaattttc agctttgccg 5100
115 acgaataatc agtgaaggaa tatggagtct cattagagaa aagaaacaag aattttgtga 5160
116 gaaaaattat ggcaagatat tattgccaga tactaatctt atgcttctcc ctgctaaatc 5220
117 gttatgctac aatgattgcc cttggataaa agtaaaggat accactgtaa aatattgtca 5280
118 tgctgacata cccagggaag tagcagtaaa actaggagca gtcccaaagc gacacaaagc 5340
119 cttagaaaga tatgcatcca atgtctgttt tacaacactt ggcacagaat ttgggcagaa 5400
120 agaaaaattg accagcagaa ttaagagcat ccttaatgca tatccttctg aaaaggaaat 5460
121 gttgaaagag cttcttcaaa atgctgatga tgcaaaggcg acagaaatct gttttgtgtt 5520
122 tgatcctaga cagcatccag ttgatagaat atttgatgat aagtgggccc cattgcaagg 5580
123 gccagcactt tgtgtgtaca acaaccagcc atttacagaa gatgatgtta gaggaattca 5640
124 gaatcttgga aaaggcacga aagagggaaa tccttataaa actggacagt atggaatagg 5700
125 attcaattct gtgtatcata tcacagactg cccatctttt atttctggca atgacatcct 5760
126 gtgtattttt gatcctcatg ccagatatgc accaggggcc acatccatta gtcccggacg 5820
127 catgtttaga gatttggatg cagatttttag gacacagttc tcagatgttc tggatcttta 5880
128 tctgggaacc catttttaaac tggataattg cacaatgttc agatttcctc ttcgtaatgc 5940
129 agaaatggca aaagtttcgg aaatttcgtc tgttccagca tcagacagaa tggtccagaa 6000
130 tcttttggac aaactgcgct cagatggggc agaacttcta atgtttctta atcacatgga 6060
131 aaaaatttct atttgtgaaa tagataagag tactggagct ctaaatgtgc tgtattcagt 6120
132 aaagggcaaa atcacagatg gagacagatt gaaaaggaaa caatttcatg catctgtaat 6180
133 tgatagtgtt actaaaaaga ggcagctcaa agacatacca gttcaacaaa taacctatac 6240
134 tatggatact gaggactctg aaggaaatct tactacgtgg ctaatttgta atagatcagg 6300
135 cttttcaagt atggagaaag tatctaaaag tgtcatatca gctcacaaga accaagatat 6360
136 tactcttttc ccacgtggtg gagtagctgc ctgcattact cacaactata aaaaacccca 6420
137 tagggccttc tgttttttgc ctctttcttt ggagactggg ctgccatttc atgtgaatgg 6480
138 ccactttgca ctggattcag ccagaaggaa cctgtggcgt gatgataatg gagttggtgt 6540
139 tcgaagtgac tggaataaca gtttaatgac agcattaata gctcctgcat atgttgaatt 6600
140 gctaatacag ttaaaaaaac ggtatttccc tggttctgat ccaacattat cagtgttaca 6660
141 gaacacccct attcatgttg taaaggacac tttaaagaag tttttatcgt ttttcccagt 6720
142 taaccgtctt gatctacagc cagatttata ttgtctagtg aaagcacttt acaattgcat 6780
143 tcacgaagac atgaaacgtc ttttacctgt tgtgcgggct ccaaatattg atggctctga 6840
144 cttgcactct gcagttataa ttacttggat caatatgtct acttctaata aaactagacc 6900
145 attttttgac aatttactac aggatgaatt acaacacctt aaaaatgcag attataatat 6960
146 caccacacgc aaaacagtag cagagaatgt ctataggctg aaacatctcc ttttagaaat 7020
147 tggtttcaac ttggtttata actgtgatga aactgctaat ctttaccact gtcttataga 7080
148 tgcagatatt cctgttagtt atgtgacccc tgctgatatc agatcttttt taatgacatt 7140
149 ttcctctcct gacactaatt gccatattgg gaagctgcct tgtcgtctgc agcagactaa 7200
150 tctaaaactt tttcatagtt taaaacttttt agttgattat tgttttaaag atgcagaaga 7260
151 aaatgagatt gaagttgagg gattgcccct tctcatcaca ctggacagtg ttttgcaaac 7320
152 ttttgatgca aaacgaccca agtttctaac aacatatcat gaattgattc catcccgcaa 7380
153 agacttgttt atgaatacat tatatttgaa atatagtaat attttattga actgtaaagt 7440
```

RAW SEQUENCE LISTING   DATE: 01/28/2002
PATENT APPLICATION: US/09/693,205   TIME: 15:03:20

Input Set : A:\2825.1021-003.TXT
Output Set: N:\CRF3\01282002\I693205.raw

```
154 tgcaaaagtg tttgacattt ccagctttgc tgatttgtta tcctctgtgt tgcctcgaga 7500
155 atataagacc aaaagttgca caaagtggaa agacaatttt gcaagtgagt cttggcttaa 7560
156 gaatgcatgg cattttatta gtgaatctgt aagtgtgaaa gaagatcagg aagaaacaaa 7620
157 accaacattt gacattgttg ttgatactct aaaagactgg gcattgcttc caggaacaaa 7680
158 gtttactgtt tcagccaacc agcttgtggt tcctgaagga gatgttctgc ttcctctcag 7740
159 ccttatgcac attgcagttt ttccaaatgc ccagagtgat aaagtttttc atgctctaat 7800
160 gaaagccggc tgtattcagc ttgctttgaa caaaatctgt tccaaagaca gtgcatttgt 7860
161 tcctttgttg tcatgtcaca cagcaaatat agagagcccc acaagcatct tgaaggctct 7920
162 acattatatg gtccaaactt caacatttag agcagaaaaa ttagtagaaa atgattttga 7980
163 ggcacttttg atgtatttca actgcaattt gaatcatttg atgtcccaag atgatataaa 8040
164 aattctaaag tcacttccgt gctataaatc catcagtggc cgctatgtaa gcattggaaa 8100
165 atttggaaca tgctacgtac ttacaaaaag tatcccttca gctgaagtgg agaaatggac 8160
166 acaatcatca tcatctgcat ttcttgaaga aaaaatacac ttaaaagaac tatatgaggt 8220
167 gattggttgt gtacctgtag atgatcttga ggtatatttg aaacacctct taccaaaaat 8280
168 tgaaaatctc tcttatgatg caaaattaga gcacttgatc taccttaaga atagattatc 8340
169 aagtgctgag gaattatcag agattaagga acaacttttt gaaaaactgg aaagtttatt 8400
170 gataatccat gatgctaaca gtagactaaa gcaagcaaag catttctatg atagaactgt 8460
171 gagagttttt gaagttatgc ttcctgaaaa attgtttatt cctaatgatt tctttaagaa 8520
172 attggaacaa cttataaaac ccaaaaatca tgttacattt atgacatcct gggtggaatt 8580
173 cttaagaaat attggactaa aatacatact ttctcagcag cagttgttac agtttgctaa 8640
174 ggaaatcagt gtgagggcta atacagaaaa ctggtccaaa gaaacattgc aaaatacagt 8700
175 tgatatcctt ctgcatcata tattccaaga acgaatggat ttgttatctg gaaattttct 8760
176 gaaagaacta tctttaatac cattcttatg tcctgagcgg gcccccgcgg aattcattag 8820
177 atttcatcct caatatcaag aggtaaatgg aacacttcct cttataaagt tcaatggagc 8880
178 acaggtaaat ccaaaattca agcaatgtga tgtactccag ctgttatgga catcctgccc 8940
179 tattcttcca gagaaagcta caccccttaag cattaaagaa caagaaggta gtgaccttgg 9000
180 tccacaagaa cagcttgaac aagtttttaa tatgcttaat gttaacctgg atcctcctct 9060
181 tgataaggta atcaataact gcagaaacat atgcaacata acgacgttgg atgaagaaat 9120
182 ggtaaaaact agagcaaaag tcttaaggag catatatgaa ttcctcagtg cagaaaaaag 9180
183 ggaatttcgt tttcagttgc gaggggttgc ttttgtgatg gtagaagatg gttggaaact 9240
184 tctgaagcct gaggaggtag tcataaacct agaatatgaa tctgatttta aaccttattt 9300
185 gtacaagcta cctttagaac ttggcacatt tcaccagttg ttcaaacact taggtactga 9360
186 agatattatt tcaactaagc aatatgttga agtgttgagc cgcatattta aaaattctga 9420
187 gggcaaacaa ttagatccta atgaaatgcg tacagttaag agagtagttt ctggtctgtt 9480
188 caggagtcta cagaatgatt cagtcaaggt gaggagtgat ctcgagaatg tacgagacct 9540
189 tgcgctttac ctcccaagcc aggatggtag attggtaaag tcaagcatct tagtgtttga 9600
190 cgatgcgcca cattataaaa gtagaatcca ggggaatatt ggtgtgcaaa tgttagttga 9660
191 tctcagccag tgctacttag ggaaagacca tggatttcac actaagttga taatgctctt 9720
192 tcctcaaaaa cttagacctc gattattgag cagtatactt gaagaacaat tagatgaaga 9780
193 gactcccaaa gtttgtcagt ttggagcgtt gtgttctctt caaggaagat tgcagttact 9840
194 cttgtcttct gaacagttca ttacaggact gattagaatt atgaagcatg aaaatgataa 9900
195 tgcttttctg gccaatgaag aaaaagccat aagactttgc aaagccctaa gagaaggatt 9960
196 gaaagtatcc tgctttgaaa agcttcaaac aacattaaga gttaaaggtt ttaatcctat 10020
197 tccccacagc agaagtgaaa cttttgcttt tttgaagcga tttggtaatg cagtcatctt 10080
198 gctctacatt caacattcag acagtaaaga cattaatttc ctgttagcac tggcaatgac 10140
199 tcttaaatca gcaactgaca atttgatttc tgacacttca tatttaattg ctatgctagg 10200
200 atgcaatgat atttacagga ttggtgagaa acttgacagt ttaggagtga aatatgactc 10260
201 ttcggagcca tcaaaactgg aacttccaat gcctggcaca ccaattcctg ctgaaattca 10320
202 ttacactctg cttatggacc caatgaatgt tttttacccg ggagaatatg ttgggtacct 10380
```

RAW SEQUENCE LISTING   DATE: 01/28/2002
PATENT APPLICATION: US/09/693,205   TIME: 15:03:20

Input Set : A:\2825.1021-003.TXT
Output Set: N:\CRF3\01282002\I693205.raw

```
203 tgttgatgct gaaggtggtg atatctatgg atcataccag ccaacataca catatgcaat 10440
204 tattgtacaa gaagttgaaa gagaagatgc tgacaattct agttttctag gaaagatata 10500
205 tcagatagat attggttata gtgaatataa aatagttagc tctcttgatc tgtataagtt 10560
206 ttcaagacct gaggaaagct ctcaaagcag ggacagtgct ccttctacac caaccagccc 10620
207 cactgagttc ctcacccctg gcctgagaag cattcctcct cttttctctg gtagagagag 10680
208 ccacaagact tcttccaaac atcagtcccc caaaaagctt aaggttaatt ctttaccaga 10740
209 aatcttaaaa gaagtgacat ctgtggtgga gcaagcatgg aagcttccag aatcggaacg 10800
210 aaaaaagatt attaggcggt tgtatttgaa atggcatcct gacaaaaatc cagagaacca 10860
211 tgacattgcc aatgaagttt ttaaacattt gcagaatgaa atcaacagat tagaaaaaca 10920
212 ggcttttcta gatcaaaatg cagacagggc ctccagacga acattttcaa cctcagcatc 10980
213 ccgatttcag tcagacaaat actcatttca gagattctat acttcatgga atcaagaagc 11040
214 aacgagccat aaatctgaaa gacagcaaca gaacaaagaa aaatgccccc cttcagccgg 11100
215 acagacttac tctcaaaggt tctttgttcc tcccactttc aagtcggttg gcaatccagt 11160
216 ggaagcacgc agatggctaa gacaagccag agcaaacttc tcagctgcca ggaatgacct 11220
217 tcataaaaat gccaatgagt gggtgtgctt taaatgttac ctttctacca agttagcttt 11280
218 gattgcagct gactatgctg tgaggggaaa gtctgataaa gatgtaaaac caactgcact 11340
219 tgctcagaaa atagaggaat atagtcagca acttgaagga ctgacaaatg atgttcacac 11400
220 attggaagct tatggtgtag acagtttaaa aacaagatac cctgatttgc ttccctttcc 11460
221 tcagatccca aatgacaggt tcacttctga ggttgctatg agggtgatgg aatgtactgc 11520
222 ctgtatcata ataaaacttg aaaattttat gcaacaaaaa gtgtgaagat atttaacgaa 11580
223 aaaaaaggta gatcttgaat gtgttgtagc acgaataaat tgctgtactt cattaagctt 11640
224 cattgccaat tagctaggaa ttgttaagca cattgcagat tgttcttgga gaattctgga 11700
225 gttgttatga acatgaatac caacggaaaa ccttaactga atctaaaaga aaactatttt 11760
226 gaagatggtg gtgagctgca aaatagctgg atggatttga atgattggga tgatacatca 11820
227 ttgaactgca cttttatataa ccaaagctta gcagtttgtt agataagagt ctatgtatgt 11880
228 ctctggttag gatgaagtta attttatgtt tttaacatgg tattttttgaa ggagctaatg 11940
229 aaacactgga catataattg gtttaaacat aagggggaatt aagtctttgt agtctgtcat 12000
230 ttttttaagt ggatcctctt ggatgcgtta ttttctcatc agctggctct gatcatgaat 12060
231 ttgttgtaat tttatgttgt actcagtgca tttaagaaat ggtagagtat tttaatccta 12120
232 ttacttgact aagagtgtga aggtagtact tttttagagtg cactgagtgc actttacatc 12180
233 tttatttaaa ttttttttta acatcttatg tttacaggct tcctgtttga tgaagatagc 12240
234 aacggaaaac tcaaaatggt ggcagttctt attaccagtt gttagtattg tttctggaaa 12300
235 ctgcttgcca agacaacatt tattaactgt tagaacactt gctttatgtt tgtgtgtaca 12360
236 tattttccac aaatgttata atttatatag tgtggttgaa caggatgcaa tcttttgttg 12420
237 tctaaaggtg ctgcagttaa aaaaaaaaca accttttctt tcaatatggc atgtagtgga 12480
238 gtttttttaa ctttaaaaac atcaaaaatt gttaaaatca ttgtgttatc tagtagttta 12540
239 taattatcgg cttatatttc cccatgaatg atcagaactg acatttaatt catgtttgtc 12600
240 tcgccatgct tctttacttt aacatatttc ttttgcagaa tgtaaaaggt aatgataatt 12660
241 agtttatata agtgtactgg ctgtaaatga tgctaaatat actttatgca attaagggct 12720
242 tacagaacat gttgaaactt tttttacttt tattgggaat aaggaatgtt tgcacctcca 12780
243 cattttattg ctt                                                    12793
245 <210> SEQ ID NO: 2
246 <211> LENGTH: 3829
247 <212> TYPE: PRT
248 <213> ORGANISM: Homo sapiens
250 <400> SEQUENCE: 2
251 Met Asn Thr Phe Trp Pro Gly Arg Glu Leu Ile Val Gln Trp Tyr Pro
252 1               5                   10                  15
253 Phe Asp Glu Asn Arg Asn His Pro Ser Val Ser Trp Leu Lys Met Val
```

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY   DATE: 01/28/2002
PATENT APPLICATION: US/09/693,205   TIME: 15:03:21

Input Set : A:\2825.1021-003.TXT
Output Set: N:\CRF3\01282002\I693205.raw

```
L:1423 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (5) SEQUENCE:
L:1428 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (6) SEQUENCE:
L:4420 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20
L:4957 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (68) SEQUENCE:
L:4962 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (69) SEQUENCE:
L:4967 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (70) SEQUENCE:
L:4972 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (71) SEQUENCE:
```